

paper, etc., from passing through with the water. Pipe "J" permits the entry of fresh air, which passes over the sewage and up through the soil pipe "E" to the roof. Manholes "G" "G" provide access to both tanks.

The operation of the tank is as follows: All the sewage from the building enters the tank through pipe "E" filling compartment No. 1, the solids being compelled to float by the gasses generated underneath. When this compartment is filled the liquid overflows through "F" into compartment No. 2, the valve "C" of which is closed. When, however, the liquid rises to the level at which float "H" is set the valve opens, discharging the whole contents of compartment No. 2, be it fifty or five thousand gallons into the system of sub-surface tiles through which it soaks into the earth, there to be taken care of by nature as already explained.

As the valve closes automatically when the tank is nearly empty, it will be seen that sufficient time will be given for that which has just been discharged to soak away before the tank fills again and the operation is repeated.

A word respecting the solid portion of the sewage retained in compartment No. 1. The value of the system will be appreciated when it is stated that so thorough is the action of

the millions of bacteria on this body, causing the almost immediate disintegration and decomposition of everything entering the tank, that tanks when opened after a year's use, and into which the sewage from buildings containing many inmates was emptied, were found to contain not more than two or three pails full of a kind of earthy substance, from which scarcely any odor was perceptible. It must be borne in mind, of course, that no disinfectants are necessary with this system, and nothing in the shape of chemicals should be allowed to enter the tank if the life of the bacteria, which is so essential to its success, is to be preserved.

Regarding the size of the tank necessary, it may be said that for an ordinary family a tank four feet long by three feet wide, and from thirty to thirty-six inches high would be sufficient, while for hotels or institutions one large enough to hold about twelve gallons for each inmate would be ample.

The septic tank system has the endorsement of all scientific men who have given the subject of sewage disposal close study. It will not give any trouble if built according to the directions given, and, contrary to the general supposition it will not freeze in winter: if the tiles are placed under a garden most valuable results may be obtained in flowers, fruit or vegetables.

